

PDP-1 COMPUTER  
ELECTRICAL ENGINEERING DEPARTMENT  
M.I.T.  
CAMBRIDGE 39, MASSACHUSETTS

PDP-24

SYSTEM ASSEMBLER

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The System Assembler 8-64 was written to facilitate the assembling of the time sharing system programs. Changes in the system programs can be made in Expensive Typewriter 11A; the System Assembler will then take these programs stored in E.T. 11A assemble and load them onto the drum in the proper location. [Note that the System Assembler will not accept English tapes--the tapes must be stored in E.T. 11A.]

The System Assembler does not look at the Test Word or Switches. It assumes that bit 17 of the Test Word is always up--that is, when an error occurs, it will continue pass 2 without punching.

A carriage return is typed out to indicate that the system assembler is ready to accept a string of commands; the commands that may be typed into the system assembler are given below. (Beware of undefined commands since they will cause unpredictable results.) Both space and carriage return characters are ignored by the System Assembler.

#### Control Commands

- |   |   |
|---|---|
| b | set current program pointer to beginning of text area in ET 11A |
| c | equivalent to pressing the continue switch                      |
| s | equivalent to pressing the start switch                         |

|  |   |
|--|---|
| Ms                                     | equivalent to pressing the start switch with M in the test word   |
| o                                      | do not assemble onto the drum   |
| Mo                                     | assemble onto the drum -- field number and address of location on drum are determined by adding M to origin of each block of output               |
| K                                      | skip over 1 program without processing  |
| .↵<br>(center dot,<br>carriage return) | denotes end of command string; signals the System Assembler to begin execution of commands  |
| ←<br>(backspace)                       | erase preceding character; if backspace off left end of command string, get carriage return   |
| y                                      | causes a halt; typewriter types a red "y" to indicate it is ready to read in symbol table; type any character to cause symbol table to be read in |
| w                                      | causes Macro and Symbol Table to be written on drum at the address preceding the command  |
| t                                      | causes Macro and Symbol Table to be read off drum from address preceding the command  |

#### Control Characters for Symbol Package

|    |  |
|----|--|
| r  | restore MACRO  |
| v  | print constant area  |
| a  | alpha symbol print (without constant area)   |
| n  | numeric symbol print (without constant area)   |
| pM | calls symbol punch with title M punched on tape; M must be followed by a carriage return |

NOTE: If an error is made in the assembly, the system assembler must be read in again; one cannot initialize by starting the program at zero.